CLAIMS

What is claimed is:

1. A method comprising:

determining for an integrated circuit (IC) a target for a proxy frequency of a periodic signal, the target proxy frequency to be associated with the IC and taken into consideration in regulating voltage to be applied to a constituent operational circuit of the IC, the proxy frequency being reflective of a potential of an operational frequency of the constituent operational circuit, and the IC, in addition to the constituent operational circuit, further having a proxy circuit that outputs the proxy signal; and downlocking at least a selected one of the target of the proxy frequency, a bus-to-core frequency multiplier of the constituent operational circuit, a minimum Vcc, a maximum Vcc, a maximum temperature, and a bus frequency ratio multiplier associated with the IC.

2. The method of claim 1, wherein said determining comprises testing the IC, and selecting an operational frequency of the constituent operational circuit observed during said testing to be a specification maximum operational frequency for the constituent operational circuit.

3. The method of claim 2, wherein said selecting of an operational frequency of the constituent operational circuit observed during said testing comprises selecting the fastest operational frequency of the constituent operational circuit observed during said testing.

4. The method of claim 2, wherein the method further comprises selecting the proxy frequency of the proxy signal outputted by the proxy circuit, while the constituent operational circuit operated at the selected operational frequency, as the target for the proxy frequency.

5. The method of claim 2, wherein said testing of the IC comprises testing the IC at a plurality of temperatures.

6. The method of claim 1, wherein said downlocking comprises distributing the selected one or ones of the target proxy frequency information, the bus-to-core frequency multiplier of the constituent operational circuit, the minimum Vcc, the maximum Vcc, the maximum temperature, and the bus frequency ratio multiplier.

7. The method of claim 1, wherein the method further comprises configuring the IC with the selected one or ones of the target proxy frequency, the bus-to-core frequency multiplier of the constituent operational circuit, the minimum Vcc, the maximum Vcc, the maximum temperature, and the bus frequency ratio multiplier.

8. The method of claim 7, wherein said configuring of the IC comprises a selected one of storing the selected one or ones of the target proxy frequency, the bus-to-core frequency multiplier of the constituent operational circuit, the minimum Vcc, the maximum Vcc, the maximum temperature, and the bus frequency ratio multiplier in one or more storage locations of the IC, and setting one or more fuses of the IC.

9. The method of claim 7, wherein the method further comprises configuring the IC with an adjustment to the target proxy frequency, to be also taken into consideration in said regulation of voltage to be applied to the IC.

10. The method of claim 7, wherein the method further comprises re-configuring the IC with a replacement one of at least a selected of the target proxy frequency, the bus-to-core frequency multiplier of the constituent operational circuit, the minimum Vcc, the maximum Vcc, the maximum temperature, and the bus frequency ratio multiplier.

11. The method of claim 1, wherein the method further comprises providing an adjustment to the target proxy frequency.

12. The method of claim 11, where the method further comprises providing an upgrade to control logic employed in regulating voltage applied to the IC.

13. The method of claim 1, wherein the method further comprises accepting electronic payment tendered for upgrading the target proxy frequency.

14. A method comprising:

accepting a request to upgrade an integrated circuit (IC) of a client device, the IC having a constituent operational circuit and a proxy circuit, the target proxy frequency being a target for a proxy frequency of a proxy signal outputted by the proxy circuit, and the proxy frequency being reflective of a potential of an operational frequency of the constituent operational circuit, and to be taken into consideration in regulating voltage to be applied to the IC ; and

providing the client device with data to upgrade at least a selected one of a target proxy frequency, a bus-to-core frequency multiplier of a constituent operational circuit, a minimum Vcc, a maximum Vcc, a maximum temperature, a bus frequency ratio multiplier, and voltage regulation control logic associated with the IC.

15. The method of claim 14, wherein the IC is installed on the client device.

16. The method of claim 14, wherein the IC is configured with the target proxy frequency.

17. The method of claim 14, wherein the data comprises a selected one of a replacement target proxy frequency to replace said target proxy frequency associated with the IC, a replacement adjustment to replace an adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC, and an adjustment to at least one other adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC.

18. The method of claim 14, where said providing of the data is based at least in part on identification information of the IC, and the method further comprises the server device requesting for the identification information.

19. The method of claim 14, wherein the method further comprises accepting electronic payment tendered for upgrading the target proxy frequency.

20. A method comprising:

requesting by a client device for an upgrade for an integrated circuit (IC), the IC having a constituent operational circuit and a proxy circuit, the target proxy frequency being a target for a proxy frequency of a proxy signal outputted by the proxy circuit, and the proxy frequency being reflective of a potential of an operational frequency of the constituent operational circuit, and to be taken into consideration in regulating voltage to be applied to the IC ; and

receiving by the client device data to upgrade at least a selected one of a target proxy frequency, a bus-to-core frequency multiplier of a constituent operational circuit, a minimum Vcc, a maximum Vcc, a maximum temperature, a bus frequency ratio multiplier, and voltage regulation control logic associated with the IC.

21. The method of claim 20, wherein the IC is installed on the client device.

22. The method of claim 20, wherein the IC is configured with the target proxy frequency.

23. The method of claim 20, wherein the data comprises a selected one of a replacement target proxy frequency to replace said target proxy frequency associated with the IC, a replacement adjustment to replace an adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC, and an adjustment to be combined with at least one other adjustment and applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC.

24. The method of claim 23, wherein the method further comprises associating the IC with the selected one of the replacement target proxy frequency, the replacement adjustment and the adjustment to be combined with at least one other adjustment.

25. The method of claim 24, wherein said associating comprises configuring the IC with the selected one of the replacement target proxy frequency, the replacement adjustment and the adjustment to be combined with at least one other adjustment.

26. The method of claim 20, where the data is provided based at least in part on identification information of the IC, and the method further comprises providing the server device with the identification information.

27. The method of claim 20, wherein the method further comprises tendering electronic payment for the data.

28. A system comprising:

a networking interface;

a storage device having programming instructions stored therein, designed to provide a client device with data to upgrade at least a selected one of a target proxy frequency, a bus-to-core frequency multiplier of a constituent operational circuit, a minimum Vcc, a maximum Vcc, a maximum temperature, a bus frequency ratio multiplier, and voltage regulation control logic associated with an integrated circuit (IC) having a constituent operational circuit and a proxy circuit, the target proxy frequency being a target for a proxy frequency of a proxy

signal outputted by the proxy circuit, and the proxy frequency being reflective of a potential of an operational frequency of the constituent operational circuit, and to be taken into consideration in regulating voltage to be applied to the IC; and

at least one processor coupled to the networking interface and the storage to execute the programming instructions.

29. The system of claim 28, wherein the programming instructions are designed to provide a selected one of a replacement target proxy frequency to replace said target proxy frequency associated with the IC, a replacement adjustment to replace an adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC, and an adjustment to at least one other adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC, as the data.

30. The system of claim 28, where said programming instructions are designed to provide the data based at least in part on identification information of the IC, and request for the identification information.

31. The system of claim 28, said programming instructions are designed to accept electronic payment tendered for upgrading the target proxy frequency.

32. A system comprising:

a networking interface;

a storage device having programming instructions stored therein, designed to receive from a server device data to upgrade at least a selected one

of a target proxy frequency, a bus-to-core frequency multiplier of a constituent operational circuit, a minimum Vcc, a maximum Vcc, a maximum temperature, a bus frequency ratio multiplier, and voltage regulation control logic associated with an integrated circuit (IC) having a constituent operational circuit and a proxy circuit, the target proxy frequency being a target for a proxy frequency of a proxy signal outputted by the proxy circuit, and the proxy frequency being reflective of a potential of an operational frequency of the constituent operational circuit, and to be taken into consideration in regulating voltage to be applied to the IC; and

at least one processor coupled to the networking interface and the storage to execute the programming instructions.

33. The system of claim 32, wherein the data comprises a selected one of a replacement target proxy frequency to replace said target proxy frequency associated with the IC, a replacement adjustment to replace an adjustment to be applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC, and an adjustment to be combined with at least one other adjustment and applied to said target proxy frequency prior to taking the target proxy frequency into consideration when regulating voltage to be applied to the IC.

34. The system of claim 33, wherein the programming instructions are further designed to associate the IC with the selected one of the replacement target proxy frequency, the replacement adjustment and the adjustment to be combined with at least one other adjustment.

35. The system of claim 34, wherein the programming instructions are further designed to configure the IC with the selected one of the replacement target

proxy frequency, the replacement adjustment and the adjustment to be combined with at least one other adjustment.

36. The system of claim 32, where the data is provided based at least in part on identification information of the IC, and the programming instructions are further designed to provide the server device with the identification information.

37. The system of claim 32, wherein the programming instructions are further designed to tender electronic payment for the data.